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GB 2260062 A GB 2197768 A US 4998272 A

(58) Field of Search

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## (54) Automatic telephone message sending apparatus

(57) The automatic telephone message sending apparatus 5 sends at least one predetermined message to at least one predetermined telephone number at at least one predetermined time, and comprises means for storing at least one message 10, at least one telephone number 15 and at least one time 20, a clock 25, and means controlled by the clock 25 for calling the at least one telephone number(s) at the corresponding at least one time(s) and transmitting the corresponding at least one message(s) to telephonic apparatus at the telephone number being called. Once the telephonic apparatus at the telephone number being called has been answered the message may be transmitted one or more times. The apparatus 5 may be referred to as an "electronic diary" or "electronic notepad".

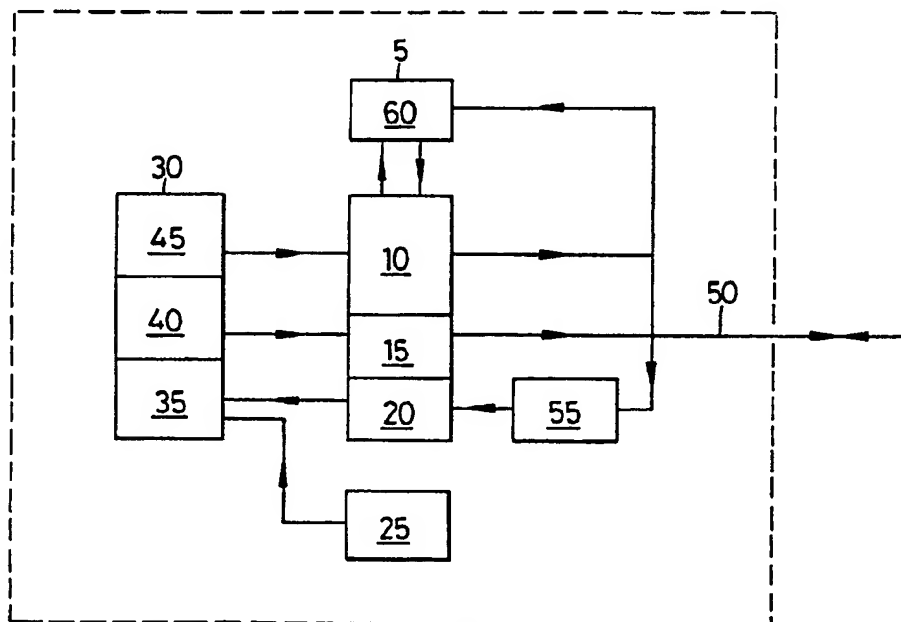


Fig. 1

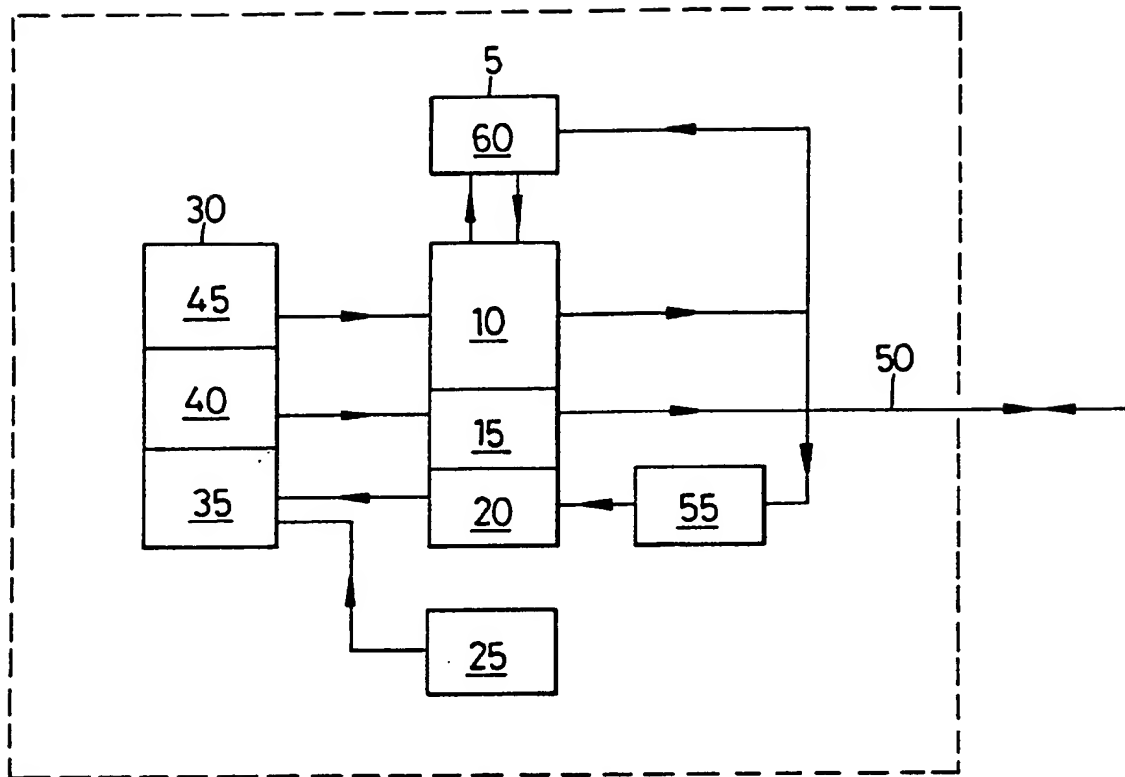


Fig. 1

Telephonic Apparatus

5 This invention relates to the field of telephonic apparatus, and in particular to an automatic telephone message sending apparatus and related method.

Telephone answering machines are readily available, and widely used by people who, for a variety of reasons, are not available to answer their telephone when someone makes a call to them.

10 A reciprocal problem to that addressed by the answering machine exists, in that a person may wish to make one or more calls, to one or more people, at various times, when that person may be unable for a variety of reasons to make such a call or calls.

15 Accordingly, it is an object of the present invention to obviate or mitigate the aforementioned problem.

A first aspect of the present invention provides telephonic apparatus for sending at least one predetermined message to at least one predetermined telephone number at at least one predetermined time, comprising means for storing at least one message, at least one telephone number and at least one time, a clock, and means controlled by the clock for calling the at least one telephone number(s) at the corresponding at least one time(s) and transmitting the corresponding at least one message(s) to telephonic apparatus at the telephone number being called.

25 The apparatus may be used by a person as an "electronic diary" or "electronic notepad". For example, a person may store one or more messages to be sent to one or more telephone numbers at one or more times to be received by the person themselves in order to remind them of particular information, etc.

30 Once the telephonic apparatus at the telephone number being called has been answered the message may be transmitted one or more times.

Telephonic receiving apparatus at the at least one telephone number may comprise a conventional telephone unit, or alternatively a facsimile machine.

In the former case the message may comprise an audio message which may, be recorded and stored on any suitable recording means, for example, an audio tape or compact disc.

The means for storing the at least one message, at least one telephone number and at least one time may, therefore, comprise audio tape recording means for recording, storing and sending the message(s) and electronic memory means for storing the number(s) and time(s).

In the latter case the message may comprise a facsimile compatible message which may be stored in an electronic memory of the telephonic apparatus.

The storage means may also store dates.

The apparatus may also comprise means for detecting if a number(s) is engaged and redialling the number(s) at predetermined intervals until the number(s) is/are answered.

Interrogation means may be provided in the form of visual display means on the apparatus and/or may provide means for calling a person at a predetermined number at a predetermined time to inform the person of which message(s) have been sent.

The apparatus may also comprise remote access means by which a person calling a number corresponding to that of the apparatus may access the storage means and/or the electronic interrogation means.

A second aspect of the present invention provides a method of sending at least one predetermined message to at least one predetermined telephone number at at least one predetermined time, comprising the steps of storing at least one message, at least one telephone number and at least one time in storage means and calling the at least one number at the at least one time by control means controlled by a timer and transmitting the at least one

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message to telephonic apparatus at the telephone number being called.

An embodiment of the present invention will now be described by way of example only, with reference to the  
5 accompanying drawing which is:

Fig 1 a schematic block diagram of an embodiment of a telephonic apparatus according to the present invention.

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Referring to the drawing there is provided telephonic apparatus, generally designated 5, for sending at least one pre-recorded message to at least one predetermined telephone number at at least one predetermined time,  
15 hereinafter referred to as an "arrangement recaller".

The arrangement recaller 5 may comprise a stand alone unit or may comprise part of a conventional telephone unit. The arrangement recaller 5 comprises means for pre-recording, storing and playing at least one message which,  
20 in this embodiment, comprises an audio tapedeck 10 having an audio tape (not shown). The recaller 5 further comprises first electronic memory and caller means 15 for storing and controllably calling at least one telephone number and second electronic memory means 20 for storing  
25 at least one time and possibly also a corresponding at least one date.

The recaller further provides a clock 25 and call means 30 comprising a comparator 35, first control/sender means 40 and second control/sender means 45. Inputs to  
30 the comparator 35 are connected to and compare the output of the clock 25 and the predetermined time/date held within the second electronic memory means 20.

The first control means 40, is controlled by an output of the comparator 35. An output of the first  
35 control means 40 is connected to an input of the first electronic memory and caller means 15, an output of which is connected to an external telephone line 50. Similarly, an output of the second control means 45 is connected to

and controls an input of the tapedeck 10, an output of which is connected to the external line 50.

Detection means 55 are provided. An input to the detection means 55 is connected to the external line 50, while the output of the detection means 55 is connected to and capable of re-programming the time set in the second electronic memory means 20 for a given message.

Electronic interrogation means 60 are also provided. A first input to the interrogation means 60 is connected to each or any of the tapedeck 10, first electronic memory and caller means 15, and/or second electronic memory means 20 in order to determine which messages have been sent. For example, each message may have a unique number and the interrogation means may comprise a screen or the like upon which lists may be displayed of which messages have been sent, failed to be sent, and have still to be sent.

A second input to the interrogation means 60 may be connected to the external line 50 in order that a person may remotely interrogate the apparatus 5.

An output of the interrogation means 60 may be connected to each of the tapedeck 10, first memory and caller means 15, and second memory means 20 in order to allow the pre-recorded messages and/or pre-programmed numbers/times to be altered either directly or remotely.

The apparatus 5 may also be provided with input means (not shown), for example, a conventional numeric key pad as found on most telephone units suitably and selectively connectable to the first and second electronic memory means 15, 20 and also conventional tapedeck controls (eg. play, record, stop, fast forward, and rewind). The apparatus 5 may be electrically powered by a mains supply or by battery power.

In use, a person will pre-record a message either because he will be too busy at the given time, or because he does not want to forget to make an important phone call. The person will also store in the first and second electronic memory and caller means 15 corresponding telephone numbers to which the corresponding messages are

to be sent, and in the second memory means corresponding times at which the corresponding messages are to be sent.

For example, if a first message is to be sent at a time of 9.40 am to a telephone number of 0389 61677 then at 9.40 am the two inputs to the comparator 35, will be equal. The output from the comparator 35, connected to the input of the first control means 40, thereby switches the first control means 40 thereby allowing the first electronic memory and caller means 15 to call the corresponding telephone number via external line 50. If the telephone number is engaged, then the detection means 55 causes the corresponding time for this message to be reset within the second electronic memory means 20 - for example the time may be incremented by one minute. The apparatus 5 will thereby attempt to recall the number at regular intervals until the recipient number becomes free. This mode of operation may be referred to as "automatic dialling mode".

Should this then mean that a second message is due to begin and the first one has not yet been received, the apparatus will then automatically switch and begin to call the second number at its corresponding time and then immediately return to the first message afterwards, and then continue the automatic dialling process if required. Should both numbers be engaged the machine will automatically call each one sequentially, eg. at 1 minute intervals.

Once a recipient number has been answered then second control means 45 (actuated by the number being answered) causes the audio message on tape deck 10 to be played to the recipient number via external line 50.

A person may check to see which messages have been sent via interrogation means 60 either at the apparatus 5 or remotely via external line 50.

The interrogation means 60 may also operate automatically, in that such may have a facility to automatically call a person at a predetermined time and number to confirm which messages have been sent and which

messages have failed to be received. This facility may be termed an "emergency mode" and allows a person to attend to making these calls himself, if required.

5        Additionally, the apparatus 5 may include the following features:-

10        After sending a message to a recipient, the apparatus may allow the recipient an opportunity to record a message on the recording means 10 or on additional recording means (not shown). In this way the recipient can leave a reply for the sender of the original message. The apparatus 5 can thereby additionally act as an "answering machine".

15        The apparatus 5 may allow the recording of messages (ie recording and storing of a message on the recording means 10, storing of numbers in the first electronic memory and caller means 15 and storing of times in the second electronic memory means 20) by remote access, for example, via the interrogation means 60. In this way an operator could access and program the apparatus 5 remotely via the telephone line 50. Access could be restricted by use of security codes. If an operator desired to access or program the apparatus 5 he would have to first remotely present the apparatus with the correct security code via the telephone line 50. In this way unauthorised message recordal could be prevented.

20        The embodiment of the present invention is not described herein in any more detail since such should be apparent to a person skilled in the art when presented with the invention.

25        Finally, it should be appreciated that the embodiment of the present invention hereinbefore described is given by way of example only, and is not meant to limit the scope of the invention in any way.



Claims

1. Telephonic apparatus for sending at least one predetermined message to at least one predetermined telephone number at at least one predetermined time, comprising means for storing at least one message, at least one telephone number and at least one time, a clock, and means controlled by the clock for calling the at least one telephone number(s) at the corresponding at least one time(s) and transmitting the corresponding at least one message(s) to telephonic apparatus at the telephone number being called.

2. Telephonic apparatus as claimed in claim 1, wherein once the telephonic apparatus at the telephone number being called has been answered the message is transmitted one or more times.

3. Telephonic apparatus as claimed in claim 1 or 2, wherein the means for storing the at least one message, comprises audio tape or compact disc recording means for recording, storing and sending the message(s).

4. Telephonic apparatus as claimed in claim 3, wherein the means for storing the at least one telephone number and at least one time comprises electronic memory means for storing the number(s) and time(s).

5. Telephonic apparatus as claimed in any preceeding claim, wherein the storage means also stores dates.

6. Telephonic apparatus as claimed in any preceeding claim, wherein the apparatus further comprises means for detecting if a number(s) is/are engaged and redialling the number(s) at a predetermined interval(s) until the number(s) is/are answered.

7. Telephonic apparatus as claimed in any preceeding claim, wherein the apparatus further provides interrogation means in the form of visual display means on the apparatus to inform a person of which messages(s) have been sent.

8. Telephonic apparatus as claimed in any preceeding claim, wherein the apparatus further provides means for calling a person at a predetermined number and a

predetermined time to inform the person of which messages has been sent.

9. Telephonic apparatus as claimed in any preceeding claim, wherein the apparatus comprises remote access means by which a person calling a number corresponding to that of the apparatus may access the storage means and/or the electronic interrogation means.

10. Telephonic apparatus as claimed in any preceeding claim, wherein there is provided means by which a recipient of one of the at least one messages can record a reply to the message.

11. Telephonic apparatus as claimed in claim 9, wherein an at least one message, at least one telephone number and at least one time can be recorded on the storage means remotely.

12. A method of sending at least one predetermined message to at least one predetermined telephone number at at least one predetermined time, comprising the steps of storing at least one message, at least one telephone number and at least one time in storage means and calling the at least one number at the at least one time by control means controlled by a timer and transmitting the at least one message to telephonic apparatus at the telephone number being called.

13. Telephonic apparatus as hereinbefore described with reference to the accompanying drawing.

14. A method of sending at least one predetermined message to at least one predetermined telephone number at at least one predetermined time as hereinbefore described with reference to the accompanying drawing.

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**Patents Act 1977**  
**Examiner's report to the Comptroller under Section 17**  
**(The Search report)**

Application number  
 317997.6

**Relevant Technical Fields**

- (i) UK Cl (Ed.K)      H4K (KBHE, KBNJ)  
 (ii) Int Cl (Ed.5)      H04M (1/65, 3/42, 3/50, 11/10)

Search Examiner  
 MR S J L REES

Date of completion of Search  
 30 NOVEMBER 93

**Databases (see below)**

- (i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant following a search in respect of Claims :-  
 1-14

(ii)

**Categories of documents**

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| <p><b>X:</b> Document indicating lack of novelty or of inventive step.</p> <p><b>Y:</b> Document indicating lack of inventive step if combined with one or more other documents of the same category.</p> <p><b>A:</b> Document indicating technological background and/or state of the art.</p> | <p><b>P:</b> Document published on or after the declared priority date but before the filing date of the present application.</p> <p><b>E:</b> Patent document published on or after, but with priority date earlier than, the filing date of the present application.</p> <p><b>&amp;:</b> Member of the same patent family; corresponding document.</p> |
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Category	Identity of document and relevant passages		Relevant to claim(s)
X, P	GB 2260062 A	(GPT) whole document	1, 12 at least
X	GB 2197768 A	(SONY) whole document especially page 6 line 32 to page 7 line 21	1, 12 at least
X	US 4998272	(HAWKINS) whole document especially line 60 column 1 to line 12 column 2	1-5, 9-12

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